ABSTRACTS

EAR.

The Non-Suppurative Diseases of the Sound-Conducting Apparatus. S. H. MYGIND. (*Acta Oto-laryngologica*, Vol. xvi., Fasc. 2-3.)

The conditions known as chronic middle-ear catarrh, exudative and dry catarrh, chronic adhesive processes, etc., are all different forms of one and the same process, which is not confined to the middle ear, but affects the labyrinth also. Proof of this lies in the fact that, in these cases, evident symptoms of labyrinth involvement like tinnitus and vertigo are almost always present. Conversely, in most cases of non-suppurative labyrinth disease and so-called neuro-labyrinthitis, including Ménière's syndrome, middle-ear changes in the form of abnormalities of the tympanic membrane, stenosis of the Eustachian tube, etc., are usually present. Non-suppurative diseases of the middle ear and those of the labyrinth must therefore be regarded as forming an indivisible whole, although in any particular case the middle or the inner-ear phenomena may predominate. The sound-conduction apparatus does in fact include the fenestrae and endolymph of the labyrinth, the sound-perception apparatus beginning only at the organ of Corti.

The disease is, in its characteristic form, an œdema with tendency to serous exudation, followed in its later stages by connective tissue proliferation, formation of adhesions, ankylosis of the ossicles, etc. Corresponding œdematous processes occur in the labyrinth with not only secondary development of fibrous tissue, but also degeneration and atrophy of the auditory nerve and its end-organ.

The primary condition present at the earliest stage of the disease, which forms the basis of all the later changes, consists of an œdematous thickening, similar to the persistent fœtal type of mucous membrane described by Wittmaack in explanation of imperfect air-cell development. This œdematous fœtal condition of the middle-ear lining membrane has its counterpart in œdematous thickening of the subcutaneous tissues in infants, especially in such conditions as rickets, and parallel processes are to be recognised in such diseases as vasomotor rhinitis, and certain forms of muscular rheumatism. The œdema is an intra- and not an inter-cellular one, and is due to abnormal accumulation of water in the cells, particularly of the subepithelial connective tissue.

The ear disease may thus be secondary to a large number of general conditions which tend to water-logging of the tissues, such

as heart and kidney diseases, intoxications of various kinds, and especially abnormalities of the vasomotor mechanism.

Hence it is found that the ear disease, if still in an early stage, can effectively be treated and even completely arrested by measures directed to reducing the water-content of the tissues such as diuretics, restriction of fluid in the diet, etc.

The author passes in review all the symptoms and signs of chronic non-suppurative disease of the middle ear and labyrinth, and shows how they may be explained as results of abnormal water accumulation in the tissues. THOMAS GUTHRIE.

Acute "Closed" Middle-ear Suppuration with symptomless Retro-auricular Abscess. H. HELLING. (*Arch. Ohr. Heilk.*, *u.s.w.*, October 1931, Band cxxx., pp. 48-79.)

The clinical condition as defined above is not very uncommon and occurs chiefly among young children and infants. The middle-ear otitis is not detected and the first evidence of anything wrong is the discovery of a soft swelling behind the ear. One cannot speak of mastoiditis, as the mastoid process is not yet formed in small children.

A "closed" otitis must be diagnosed only when one has definitely established that there was no perforation of the tympanic membrane at any stage of the illness. A clinical history recording that no discharge from the meatus was noticed is not sufficient.

Altogether 25 cases are analysed, the clinical histories, the operation and bacteriological findings being noted in tabular form. The type of organism was determined in 15 cases, seven times streptococcus (three times *S. mucosus*, once *S. hæmolyticus*), seven times pneumococcus, one case Tb., as determined by histological examination of fragments removed at operation.

Added to this is an analysis of 20 cases collected from the otological literature with full references. The main clinical features are the same in the whole group of 45 cases.

On the whole, this complication does not appear to be associated with any particular organism, although there is general agreement that infections by the *Streptococcus hæmolyticus* and *mucosus* are more likely to result in mastoid abscesses than infections by the pyogenes group of streptococci.

But the author believes that anatomical factors play a definite rôle. In infants the middle-ear tract consists of a short and comparatively easily opened Eustachian tube, a middle-ear cavity closed by a tympanic membrane which is thicker and more resistant than in adults, and a large antrum without any pneumatic cells surrounding it.

Abstracts

In many cases of suppurative otitis in infants the pus drains *viâ* the Eustachian tube without perforation occurring. If the suppuration be severe and conditions not favourable for drainage, pus finds a way out through the tympanic membrane or, almost as readily, through the very superficially situated antrum. There is also the possibility of a persisting squamo-mastoid suture providing an outlet for pus.

The prognosis and end-results of this special complication are, taken as a whole, quite good. J. A. KEEN.

On the Ætiology, Treatment and Theory of Objective-Subjective Ear Noises. R. BÁRÁNY. (*Acta Oto-laryngologica*, Vol. xvi., Fasc. 2-3.)

Noises in the ear may be divided into three groups, namely, those that are purely subjective, those that are definitely objective and can be heard by other persons in addition to the patient, and lastly those distinguished by the author as "objective-subjective," in which an actual objective noise is present, but is too weak to be perceived by anyone but the patient. As an example of this latter type of noise, the case is quoted of a woman on whom the author was performing a labyrinthotomy under local anæsthesia for severe vertigo and pulsating tinnitus. During the course of the operation a small artery in the facial ridge was opened and closed with wax, on which the patient immediately said that the noise in her ear had ceased. When, later in the operation, the vessel was opened again, the noise at once recurred, but again ceased on closure with wax. The labyrinth was then opened and the ear became completely deaf. The vertigo and tinnitus ceased permanently. In another case—one of otosclerosis operated on by the method of Sourdille—the same arterial branch was opened and closed with wax, but this did not affect the noise, although the latter was diminished by compression of the carotid, in which it probably originated.

The author also discusses at some length another and entirely different variety of "objective-subjective" noise, namely, that produced by contraction of the stapedius muscle.

In a note added at the end of the paper he refers briefly to a case in which a troublesome pulsating tinnitus ceased completely after ligature of an arterial branch in the soft parts behind the ear below the tip of the mastoid process. THOMAS GUTHRIE.

On the Conduction of Ultra-Musical Tones in the Inner Ear. F. LEIRI. (*Acta Oto-larnygologica*, Vol. xvi., Fasc. 2-3.)

The conduction of sound to the inner ear may follow one or other of three paths, namely, (1) the oval window with the chain of ossicles and the tympanic membrane; (2) the round window;

(3) the wall of the labyrinth (that is, by bone conduction); while clinical observations in cases of middle-ear disease, and especially of otosclerosis, show that the oval window is the portal of entry for deep tones, it is a widely accepted belief that the conduction of the high ultra-musical tones takes place through the bone, by means of the so-called cranio-tympanal conduction. This theory of Bezold is, however, open to serious objections from the physical standpoint, the chief of which is the high resistance to the passage of sound vibrations which occurs at the plane dividing two media of greatly differing density, like air and bone.

The author has therefore abandoned this hypothesis in favour of the alternative suggestion of Lucae, according to which the high ultra-musical tones, from about c 5 upwards, are conducted to the inner ear through the round window, and he brings forward certain considerations which support this view. THOMAS GUTHRIE.

NOSE AND ACCESSORY SINUSES.

Plastic Operations after Electro-Coagulation of Malignant Tumours of the Nose and Accessory Sinuses. G. ÖHNGREN. (*Acta Oto-Laryngologica*, Vol. xvi., Fasc. 2-3.)

During the past ten years the author has been able to observe and operate on a large number of cases of malignant disease of the nose and sinuses, in which removal of the growth by diathermy has left more or less extensive defects of the palate and face.

In this paper, which is illustrated by a number of photographs, he gives a short account of the principles to be observed in remedying these deformities by plastic operations. For the larger defects he finds the tube-flap method, so much used by H. D. Gillies, of great value. Brief notes of five cases are given in order to lay stress on important points, but the author hopes in a further communication to give a more detailed account of the operations. THOMAS GUTHRIE.

Parasitic Infestation of the Nose. HAROLD LIGGETT, New York. (*Journ. Amer. Med. Assoc.*, Vol. xcvi., No. 19, 9th May 1931.)

The author reports the case of a female aged 15, who came into the Belleview Hospital complaining of marked nasal discharge and of a tickling sensation in the roof of the mouth followed by hawking of pus for a period of six months. One or two, rarely three insects came out at intervals of two to four weeks. The insects proved to be larvae of the black carpet beetle. Examination of the nose showed double maxillary sinusitis, but no insects could be seen. Two irrigations of the antrum failed to produce improvement, so a double radical operation was performed. No ova or parasites were found. As the larvae

continued to grow the sphenoids were opened without result. The patient was then treated by having ordinary oil spray poured into the nasal cavity and the sinuses filled according to the displacement method of Proetz. The patient has now been free from insects for nine months. ANGUS A. CAMPBELL.

The Relationship between Isolated Retrobulbar Optic Neuritis and Nasal Sinus Inflammation. CARL BEHR. (*Münch. Med. Wochenschrift*, Nr. 33, Jahr. 78.)

The writer's conclusions may be summarised as follows:—

The optic nerve may be implicated in cases of nasal sinus infection in one of the following ways:—

(1) As part of a generalised orbital complication.

(*a*) Simple exophthalmos due to pressure exerted by the orbital bony walls of the sinus (mucocele, pneumatocele). The protrusion is eccentric to the long axis of the orbit and the ocular movement is but slightly impaired. The optic nerve is but rarely implicated in this group, and then only as a result of mechanical compression. The latter manifests itself in the form of a slight œdematous papillitis, and eventually in slight concentric limitation of the visual field.

(*b*) Inflammatory exophthalmos due to the spread of sinus inflammation by way of a thrombo-phlebitis, periostitis or lymphangitis, or in the form of an abscess (orbital cellulitis). The exophthalmos develops in the orbital axis, and toxic paralyses of the extrinsic muscles are of early occurrence. The behaviour of the optic nerve is, in general, dependent upon the site of the inflammatory irruption. The further back this occurs the oftener will the inflammation involve the optic nerve in the form of a peri-neuritis or an interstitial peri-neuritis. A slight papillary œdema, due to a massive increase of intra-orbital pressure, can also, naturally, occur in these cases. In extreme cases an acute ischæmic degeneration and blindness may result from compression of the ophthalmic artery.

(2) Isolated, with or without slight orbital symptoms.

This variety of optic neuritis occurs only when inflammation of one of the posterior sinuses involves the optic canal. In such cases there first occurs, *per continuitatem*, a meningitis (peri-neuritis) which evokes a peripheral interstitial neuritis. In rare cases of very severe infection a transverse optic neuritis may result.

The paper is accompanied by illustrative diagrams of the visual field. J. B. HORGAN.

Larynx

LARYNX.

Sympathetic Connections of the Superior Laryngeal Nerve. Drs. CABANAC and AZEMAR. (*Les Annales d'Oto-Laryngologie*, October 1931.)

Text-book descriptions of the superior laryngeal nerve refer but very briefly to its sympathetic origin. It is commonly regarded as merely a mixed sensory and motor nerve: sensory to the laryngeal mucous membrane, and motor for the crico-thyroid muscle. Experience shows, however, that this nerve also contains vaso-motor fibres to the upper part of the thyroid gland, to the lingual artery and to the submaxillary gland.

The present anatomical work is based on the bilateral dissection of twenty-four cadavers and four definite types have been defined:— (1) the origin of the superior laryngeal nerve is twofold—one branch is from the superior cervical ganglion of the sympathetic and the other from the vagus. The two branches fuse together immediately deep to the internal carotid artery (60 per cent.). (2) When the external laryngeal nerve is given off prematurely from the trunk of the superior laryngeal nerve the sympathetic contribution is by two branches: one to the internal laryngeal and one (always the larger) to the external laryngeal nerve—sometimes only to the latter. (3) There is no well-defined sympathetic contribution. A number of minute filaments pass between the superior cervical ganglion and the superior laryngeal nerve (25 per cent.). (4) There is no connection between the sympathetic ganglion and the superior laryngeal nerve.

The authors submit that these anatomical principles should be accepted as a basis for clinical and experimental studies on laryngeal vaso-motor phenomena. M. VLASTO.

Tuberculous Laryngitis during Pregnancy and Therapeutic Abortion. Reviewed by G. GIULIANO PERONDI. (*Bolletino dell'Orecchio, della Gola e del Naso*, Ottobre 1931.)

The reviewer has considered a number of his own cases and the writings of a large number of other observers, with their collected cases. It is found that women who become pregnant whilst suffering from laryngeal tuberculosis, or who develop it during the early months of pregnancy, suffer from the disease in a very severe form, and the prognosis is as a rule very bad. The laryngeal disease progresses rapidly and may even necessitate tracheotomy, whilst the general condition of the patient deteriorates very rapidly. If the pregnancy is not interfered with, abortion often takes place within the last two months, followed by the early death of the mother, and if abortion is artificially produced in the latter stages the result, as far as the mother is concerned, is usually bad. The effect on the child is not

so bad, but many of the children die within the first year, and those who survive tend to be of a less healthy type.

It was found that if abortion was brought about between the fourth and the end of the sixth months the mother stood a very much better chance of recovery, but the termination of the pregnancy was not in itself a therapeutic measure; it merely removed the active cause of the deterioration, and the laryngeal and the pulmonary conditions required active and careful treatment. With this the chances of recovery appeared to be about the same as in the case of a patient who had not been pregnant. F. C. ORMEROD.

PHARYNX.

Operation for Cleft Palate. Dr. CH. RUPPE. (*Les Annales d'Oto-Laryngologie*, October 1931.)

Dr. Veau has just had published a book of 548 pages on cleft palate. This article is founded on the principles which form the basis of this book. There are four chief types of congenital deformity of the palate:—

(1)	Those involving the soft palate alone	20 per cent.
(2)	Those involving the soft and hard palate	31 ,,
(3)	Those combined with unilateral harelip	39 ,,
(4)	Those combined with bilateral harelip	9 ,,

The anatomico-pathological features of these deformities are discussed, with diagrams, together with the principles of treatment. The age at which the operation should be performed is a matter of grave concern, because the earlier the operation the higher is the mortality but the better are the functional results obtained. Normal speech is to be expected after the operation in the first year in 70 per cent. of cases; second year in 69 per cent. of cases; third year in 26 per cent. of cases.

Dr. Veau therefore considers that the best time to operate is some time in the second year. He feels that the statistical position should be clearly placed before the parents, and that it is for them to come to a decision. No child should be operated on unless he is in sound health. At the same time, experience shows that in fat children ("fine babies") the operative risk is increased. It is stated that an operation for the removal of adenoids is a serious complication, and Dr. Veau no longer performs it. Moreover, he advises leaving the tonsils, because their presence assists vocalisation. The usual surgical methods for dealing with the condition are discussed and their objections noted. The author next proceeds to detail Veau's technique. There are some helpful illustrations, and the author's good statistical results are noted. M. VLASTO.

Miscellaneous

ŒSOPHAGUS AND ENDOSCOPY.

The Surgical Treatment and management of Pharyngo-Œsophageal Diverticulum. ALBERT E. M'EVERS. (*Surgery, Gynecology, and Obstetrics*, October 1931, Vol. liii., No. 4.)

Treatment of these diverticula should always be surgical unless they are of small size, particularly as the results of surgical treatment are now so good. The two-stage operation of sac isolation and excision is so satisfactory that it can be recommended in preference to all other types of surgical treatment.

The patient must be put into a good nutritional state before the operation, feeding being carried out by means of a duodenal catheter. If the secondary anæmia is marked, blood transfusion must be considered, and intravenous glucose must always be administered the day preceding the operation. The mouth and sac must be cleansed.

The operation is carried out under infiltration anæsthesia after pre-operative sedative medication.

The essential feature of the first stage of the operation is the complete and successful isolation of the sac to its beginning, without opening the sac or the œsophagus, the wound then being closed.

Prior to the second stage, which is carried out a week later, a duodenal catheter should always be passed. The wound is reopened and the sac separated to its neck; this is firmly, but not tightly, ligated and the sac removed, a gauze drain being placed in position down to the stump before closing the wound. The catheter should be left in for five days, but may be changed at the end of forty-eight hours.

Stricture rarely follows, and post-operative dilatation is seldom required. S. BERNSTEIN.

MISCELLANEOUS.

The Present Status of Plaut-Vincent's Infection. VOSS HARRELL. (*Archives of Oto-Laryngology*, July 1931, Vol. xiv., No. 1.)

The classical description of the condition by Plaut in 1884 appears to have attracted little attention until Vincent, while serving with French troops in Africa in 1898, described fourteen cases of the disease with which his name is associated.

Vincent's organisms (a spirochete and a fusiform bacillus) are widely distributed in all parts of the world, and when injected into guinea-pigs they produce typical lesions. Accepted opinion favours the theory that the fusiform bacillus and the spirochete are different forms in the life cycle of the same organism.

The infection is more severe in the tropics than in temperate or Arctic climates, and the structures affected include the gums, tonsils, pharynx, palate, nasal cavity, middle and external ear, genitalia and wounds.

The writer confirms, by his microphotographs which illustrate the paper, the view expressed by Tunnicliff that the spirochete precedes the fusiform bacilli in the invasion of the tissues.

Hæmorrhage following tonsillectomy has been attributed to Vincent's infection, and it may be a cause of some cases of pulmonary abscess. Bloodgood stated that Vincent's disease never attacks a patient whose teeth and tonsils have been removed.

As regards treatment, the writer favours bismuth salts, which are more powerful and less toxic than any arsenical preparation. Bismuth and sodium tartrate in 1.5 per cent. aqueous solution is advised for intramuscular use, and the glycerinated solution of the same strength for local application. DOUGLAS GUTHRIE.

Chronic Stridor in Childhood sometimes erroneously attributed to enlargement of the Thymus. ROGER L. J. KENNEDY and GORDON B. NEW, Rochester, Minn. (*Journ. Amer. Med. Assoc.*, 18th April 1931, Vol. xcvi., No. 16.)

The diagnosis of enlarged thymus is frequently made in cases in which further examination has disclosed other conditions as the cause of symptoms. Stridor, dyspnœa, hoarseness, spells of cyanosis and noisy respiration are seldom the result of an enlarged thymus. Direct laryngoscopic examination is often necessary for a definite diagnosis. Enlargement of the thymus can seldom if ever be established as a cause of death. Such conditions as congenital relaxation of the larynx, cerebral palsy, bilateral abductor paralysis, tetany, neoplasms, subglottic diaphragm, lingual thyroid gland, retropharyngeal abscess (cold abscess), and congenital flaccid tongue must always be thought of. Of 13 cases admitted to the Mayo Clinic with the diagnosis of enlarged thymus, nine had congenital relaxation of the larynx, one had cerebral palsy, one laryngospasm, one subglottic diaphragm and one tumour of the thymus. Six detailed case reports are given. It is felt that unwarranted publicity has been given to the assumption that an enlargement of the thymus gland can cause morbidity and mortality in childhood. Pre-operative X-ray treatment of the thymus is not considered necessary.

The article occupies six columns and has a bibliography.

ANGUS A. CAMPBELL.